

**REMARKS/ARGUMENTS**

This is in full and timely response to the Office Action mailed January 30, 2003. Reexamination and reconsideration in light of the above amendments and the following remarks is respectfully requested.

By the foregoing amendment, the abstract was amended to change raytube to ray tube, as suggested by the examiner. Claims 1, 3, 5, 6, 8, 10, 12, 13, 15, 17, 19 and 20 were amended, and claims 2, 4, 7, 9, 11, 14, 16, 18 and 21 were canceled without prejudice or disclaimer. Claims 1 was amended to incorporate the elements of claim 2, claim 8 was amended to incorporate the elements of claim 9, and claim 15 was amended to incorporate the elements of claim 16. Claims 1, 8 and 15 were further amended to incorporate the element that the electron beam emitted from the emission surface has a converging trajectory. Support for this claim element can be found variously throughout the specification, for example, in Fig. 4. The remaining claims were amended for dependency. No prohibited new matter was added. Claims 1, 3, 5, 6, 8, 10, 12, 13, 15, 17, 19 and 20 are currently pending, with claims 1, 8 and 15 being independent.

Rejections under 35 U.S.C. §112

Claims 7, 14 and 21 are rejected under 35 U.S.C. §112, second paragraph for indefiniteness. Applicants respectfully traverse this rejection.

However, in order to expedite prosecution, and while not acknowledging the propriety of this rejection, Applicants have cancelled claims 7, 14 and 21 without prejudice or disclaimer, mooting this rejection. Withdrawal of this rejection is respectfully requested.

**Rejections under 35 U.S.C. §102**

Claims 1-5, 7-12, 14-19 and 21 are rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 2,735,032 to Bradley. Applicants respectfully traverse this rejection.

By this Amendment, while not acknowledging the propriety of this rejection, claims 2, 4, 7, 9, 11, 14, 16, 18 and 21 were canceled, mooted this portion of the rejection.

Claim 1 recites an electron gun comprised of a cathode that has an electron emission surface and a first grid that has a beam hole, wherein said electron emission surface and said beam hole being arranged opposite to each other, and the area opposite said beam hole within said electron emission surface being in closest proximity to said first grid; wherein the area opposite said beam hole is a center area of said electron emission surface and is a convex surface to said first grid, and wherein an electron beam emitted from the emission surface has a converging trajectory.

Claim 8 recites a cathode ray tube equipped with an electron gun, wherein said electron gun having a cathode that has an electron emission surface and a first grid that has a beam hole and said electron emission surface and said beam hole being arranged opposite to each other and the area opposite said beam hole within said electron emission surface being in closest proximity to said first grid; wherein the area opposite said beam hole is a center area of said electron emission surface and is a convex surface to said first grid, and wherein an electron beam emitted from the emission surface has a converging trajectory.

Claim 15 recites an image display device equipped with a cathode ray tube, wherein said cathode ray tube being equipped with an electron gun, said electron gun being comprised of a cathode that has an electron emission surface and a first grid that has a beam hole and said electron emission surface and said beam hole being arranged opposite to each other and the area opposite said beam hole within said electron emission surface being in closest proximity to said first grid; wherein the area opposite said beam hole is a center area of said electron emission surface and is a convex surface to said first grid, and wherein an electron beam emitted from the emission surface has a converging trajectory.

Bradley '032 discloses in Fig. 4 an electron emissive coating 100 having a flat portion 110, having peripheral portions 108 that slope away from both the flat portion 110 and the aperture 104, and slopes towards the base 102. The specification confirms that it is only the "peripheral portions 108 of the area 101" that "have a convex configuration, whereas the central

portion 110 of the area 101 is substantially planar and parallel to the plane of the confronting surface of the electrode 106." See Column 5, lines 19-23. This is in contradiction to the assertion in the Office Action at paragraph 7, referring to claim 2.

In contrast, the area opposite to the beam hole is a center area of the electron emission surface 21 that is a convex surface to the first grid. See, for example, the specification at page 10, lines 6-21 and Fig. 3. This element has been included in 1, 8 and 15.

A document can only anticipate a claim if the document discloses, explicitly or implicitly, each and every feature recited in the claim. *Verdegall Bros. v. Union Oil Co. of Calif.*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Since Bradley '032 fails to disclose, either explicitly or implicitly, at least the above-noted features recited in independent claims 1, 8 and 15, Bradley '032 cannot anticipate the claims. At least in view of the foregoing, claims 1, 8 and 15 are allowable, and the rejection should be reconsidered and withdrawn.

Dependent claims 3 and 5 depending from claim 1, 10 and 12 depending from claim 8, and 17 and 19 depending from claim 15, are also allowable for the reasons above. Moreover, these claims are further distinguished by the materials recited therein, particularly within the claimed combination. Withdrawal of the §102(b) rejection is therefore respectfully solicited.

Claims 1, 2, 6, 8, 9, 13, 15, 16 and 20 are rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 2,758,234 to Hensel. Applicants respectfully traverse this rejection.

By this Amendment, while not acknowledging the propriety of this rejection, claims 2, 9, and 16 were cancelled, mooted this portion of the rejection.

Hensel '234 discloses a cathode 1 housing a heating filament 2. An electron emission spot 4 is "provided at the place corresponding to spot 3 at which the heating filament 2 has its greatest heat emission." Col. 2, lines 16-18. The cathode is a tubular cathode 1. See col. 2, line 10. The electrode system depicted in Fig. 1 is a flat barrel. See col. 1, line 72 to col. 2, line 1. The electron-emitting spot is provided on the cylindrical surface. See col. 1, lines 36-41. Still further, the "electrons emitted at heating from the emission spot 4 result in the electron beam, passing, as marked by the dotted lines, about perpendicularly to the axis of the cathode into the discharge space." See col. 2, lines 18-22 and Fig. 1. As seen in Figs. 1-3, the dotted lines

representing the trajectory and spread of the electron beam is clearly divergent as the beam passes through the aperture 8.

In contrast, the present invention has an electron beam gun 10 having three inline arranged cathodes. See page 8, lines 21-22. As depicted in Fig. 4, the electron beam EB, which is emitted from the working area 21W of the surface 21 of the cathode K, converges at a crossover point 31 between the first grid 11 and the second grid 12, therefore the electron beam EB emitted from the emission surface has a converging trajectory.

A document can only anticipate a claim if the document discloses, explicitly or implicitly, each and every feature recited in the claim. *Verdegall Bros. v. Union Oil Co. of Calif.*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Since Hensel '234 fails to disclose, either explicitly or implicitly, at least the above noted features recited in independent claims 1, 8 and 15, Hensel '234 cannot anticipate the claims. At least in view of the foregoing, claims 1, 8 and 15 are allowable, and the rejection should be reconsidered and withdrawn.

Dependent claim 6 depending from claim 1, 13 depending from claim 8, and 20 depending from claim 15, are also allowable for the reasons above. Moreover, these claims are further distinguished by the materials recited therein, particularly within the claimed combination. Withdrawal of the §102(b) rejection is therefore respectfully solicited.

Conclusion

For the foregoing reasons, claims 1, 3, 5, 6, 8, 10, 12, 13, 15, 17, 19 and 20 are in condition for allowance. Accordingly, favorable reexamination and reconsideration of the application in light of these amendments and remarks is courteously solicited. If the examiner has any comments or suggestions that would place this application in even better form, the Examiner is requested to telephone the undersigned attorney at the number below.

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Respectfully submitted,

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